

To: Mahler, Tom[mahler.tom@epa.gov]; Colin.Willits@tetrattech.com[Colin.Willits@tetrattech.com]
From: Monnig, Rob
Sent: Thur 12/17/2015 6:14:58 PM
Subject: RE: QAPP for additional characterization split sampling at West Lake Landfill
WLL - QAPP Phase 2 Split Soil Sampling 2015_RM.docx

Here you go Tom. Let me know how this look...

From: Mahler, Tom [mailto:mahler.tom@epa.gov]
Sent: Thursday, December 17, 2015 11:40 AM
To: Willits, Colin <Colin.Willits@tetrattech.com>
Cc: Monnig, Rob <rob.monnig@tetrattech.com>
Subject: RE: QAPP for additional characterization split sampling at West Lake Landfill

Forgot to attach the work plan... sorry

From: Mahler, Tom
Sent: Thursday, December 17, 2015 11:27 AM
To: 'Willits, Colin' <Colin.Willits@tetrattech.com>
Cc: Monnig, Rob <rob.monnig@tetrattech.com>
Subject: RE: QAPP for additional characterization split sampling at West Lake Landfill

Found the information I was looking for contained in the work plan the parties submitted for Core Sampling (Phase 1B, 1C, and 2). The later phase (Phase 1D) and the current work (Additional Characterization) have work plans that EPA has approved but they reference this work plan as it relates to their Core/Soil sampling. I have attached this document but I also copied the table below for your reference:

Table 1 - Analytical Methods and Sample Requirement

MATRIX	CONTAINER	PRESERVATIVE	ANALYTE	VOLUME OR MASS REQUIRED
Soil	0.5 liter large-mouth Nalgene jar or plastic ziplock bag	None	Isotopic Uranium	< 10 g
			Isotopic Thorium	< 10 g
			Gamma emitters including: Bi-214 & Pb-214 (Ra-226) Ac-228 (Ra-228), and K-40	400-500 grams
Water	1 Gallon Cubitainer	pH <2.0 HNO ₃	Gross Alpha & Beta	Two gallons in 1-Gal Cubitainers
			Isotopic Thorium	
			Radium-226	
			Radium-228	
Air	47mm Filter	None	Gross Alpha & Beta	Air volume sampled ≥ 1 x 10 ⁸ mL
			Isotopic Thorium	

^a MDA = method detection activity

^b pCi = picoCuries

^c Standard MDA. Lower MDA's available.

^d Dependent on dissolved solids content.

^e uCi = microCuries

^f Dependent on volume of air sampled.

Give me a call when you guys are free and lets finalize any lingering questions.

Tom

From: Willits, Colin [<mailto:Colin.Willits@tetrattech.com>]

Sent: Thursday, December 17, 2015 9:45 AM

To: Mahler, Tom <mahler.tom@epa.gov>

Cc: Monnig, Rob <rob.monnig@tetrattech.com>

Subject: RE: QAPP for additional characterization split sampling at West Lake Landfill

Tom,

Do you plan to conduct/retrieve the samples or, do you need START assistance? Will you need START to ship/deliver samples? I ask as I'm trying to determine what field support you may need next week (if any).

Thanks,

Colin Willits | GIS Specialist / Project Manager

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From: Mahler, Tom [<mailto:mahler.tom@epa.gov>]

Sent: Wednesday, December 16, 2015 5:16 PM

To: Willits, Colin <Colin.Willits@tetrattech.com>

Cc: Monnig, Rob <rob.monnig@tetrattech.com>

Subject: QAPP for additional characterization split sampling at West Lake Landfill

I'm just getting slammed this week. I have not been able to finalize this QAPP but thought I would send it to you guys and ask for your help to complete. I'm just not getting the time get this one done and I'm really hoping to try and collect these splits next Monday.

I have attached my draft of a QAPP for EPA and Tetra Tech to collect and analyze split samples specifically from the Additional Characterization work that is going on now and has been for the last several weeks. I have also attached a copy of the EPA approved work plan for this work. I didn't think it would be right to ask you to help me finalize this QAPP without documentation for the work surrounding it.

Like we have discussed on the phone. The following is the sequence of events associated with this sampling:

1. Soil borings are collected from the ground at 25 locations on Areas 1 and 2 utilizing a sonic drill rig. (RP's Contractor)
2. Down hole gamma scanning (1 minute counts with a NaI Detector) is performed every 6" until the bottom of the hole is reached. (RP's Contractor)
3. The borings are screened for gamma, beta, and alpha radiation. (RP's Contractors)
4. The two highest screening locations over the entire boring are identified using the down hole gamma scanning and the boring screening. Soil from these locations are transferred from the boring to a suitable container for lab analysis (zip lock bag). (RP's Contractors)
5. A second bag of material is collected from the same interval of the same boring and held for EPA. (RP's Contractor)
6. Custody of 20% of these samples (10 individual samples) and 100% of a set of sediment samples (see work plan) will be transferred to EPA.

I'm hoping you can help me with the final steps. i.e. Do we transfer to an alternate container, limit number of samples per cooler, consider any external gamma or removable contamination for the sample container or cooler, determine an appropriate laboratory (Test America would not require any shipping), ensure that the standard method analysis that the RPs are performing are the same as what we request from the lab.

I'm sorry for sticking this on you last minute. I'm hoping we can move forward with this tomorrow. Please call me if there are any questions.

Tom